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CLAIMS:

What is claimed is:

- 1 1. A method for dynamically selecting functionally
2 equivalent Web services through a single autonomic proxy,
3 comprising:
4 receiving a client request to locate a Web service
5 at the autonomic proxy;
6 querying a policy discovery mechanism based on the
7 client request;
8 locating multiple Web services candidates to service
9 the client request, wherein each Web service candidate is
10 functionally equivalent to the other Web service
11 candidates; and
12 determining which Web service candidate to invoke
13 based on the Web service candidate business policy.
- 1 2. The method of claim 1, wherein the policy discovery
2 mechanism is UDDI.
- 1 3. The method of claim 1, wherein the Web service is
2 described using WSDL.
- 1 4. The method of claim 3, wherein querying the policy
2 discovery mechanism includes obtaining a WSDL Web service
3 interface description for the requested Web service.
- 1 5. The method of claim 3, wherein querying the policy
2 discovery mechanism includes locating a wsdlSpec tModel

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3 based on the WSDL Web service interface description for
4 the requested Web service.

1 6. The method of claim 1, wherein determining which Web
2 service candidate to invoke based on the Web service
3 candidate business policy includes analyzing business
4 criteria of the Web service candidate.

1 7. The method of claim 6, wherein the business criteria
2 includes cost of service.

1 8. The method of claim 1, further comprising:
2 selecting a Web service from a group of Web service
3 candidates;
4 sending a message to the Web service;
5 in response to a determination that the Web service
6 is not available, discovering the policy of each Web
7 service candidate in the group of Web service candidates;
8 dynamically selecting a second Web service from the
9 group of Web service candidates based on the policy; and
10 sending a request to the second Web service to
11 service the client request.

1 9. The method of claim 1, further comprising:
2 analyzing a metadata about the client request.

1 10. The method of claim 9, wherein the metadata includes
2 Web service response time information.

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1 11. The method of claim 1, wherein the locating step
2 includes
3 discovering the policy of each Web service candidate
4 in the group of Web service candidates;
5 dynamically selecting the Web service from the group
6 of Web service candidates responding the quickest based
7 on the policy; and
8 sending a request to the selected Web service to
9 service the client request.

1 12. The method of claim 1, wherein the business policy
2 includes Web Services Policy Framework (WSPolicy).

1 13. A data processing system for dynamically selecting
2 functionally equivalent Web services through a single
3 autonomic proxy, comprising:
4 receiving means for receiving a client request to
5 locate a Web service at the autonomic proxy;
6 querying means for querying a policy discovery
7 mechanism based on the client request;
8 locating means for locating multiple Web services
9 candidates to service the client request, wherein each
10 Web service candidate is functionally equivalent to the
11 other Web service candidates; and
12 determining means for determining which Web service
13 candidate to invoke based on the Web service candidate
14 business policy.

1 14. The data processing system of claim 13, wherein the
2 policy discovery mechanism is UDDI.

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1 15. The data processing system of claim 13, wherein the
2 Web service is described using WSDL.

1 16. The data processing system of claim 15, wherein the
2 querying means includes obtaining a WSDL Web service
3 interface description for the requested Web service.

1 17. The data processing system of claim 15, wherein
2 querying means includes locating a wsdlSpec tModel based
3 on the WSDL Web service interface description for the
4 requested Web service.

1 18. The data processing system of claim 13, wherein the
2 determining means includes analyzing business criteria of
3 the Web service candidate.

1 19. The data processing system of claim 18, wherein the
2 business criteria includes cost of service.

1 20. The data processing system of claim 15, further
2 comprising:
3 first selecting means for selecting a Web service
4 from a group of Web service candidates;
5 first sending means for sending a message to the Web
6 service;
7 discovering means for discovering the policy of each
8 Web service candidate in the group of Web service
9 candidates in response to a determination that the Web
10 service is not available;

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11 second selecting means for dynamically selecting a
12 second Web service from the group of Web service
13 candidates based on the policy; and
14 second sending means for sending a request to the
15 second Web service to service the client request.

1 21. The data processing system of claim 13, further
2 comprising:
3 analyzing means for analyzing a metadata about the
4 client request.

1 22. The data processing system of claim 21, wherein the
2 metadata includes Web service response time information.

1 23. The data processing system of claim 13, wherein the
2 locating means includes
3 discovering means for discovering the policy of each
4 Web service candidate in the group of Web service
5 candidates;
6 selecting means for dynamically selecting the Web
7 service from the group of Web service candidates
8 responding the quickest based on the policy; and
9 sending means for sending a request to the selected
10 Web service to service the client request.

1 24. The data processing system of claim 11, wherein the
2 business policy includes Web Services Policy Framework
3 (WSPolicy).

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1 25. A computer program product in a computer readable
2 medium for dynamically selecting functionally equivalent
3 Web services through a single autonomic proxy,
4 comprising:
5 first instructions for receiving a client request to
6 locate a Web service at the autonomic proxy;
7 second instructions for querying a policy discovery
8 mechanism based on the client request;
9 third instructions for locating multiple Web
10 services candidates to service the client request,
11 wherein each Web service candidate is functionally
12 equivalent to the other Web service candidates; and
13 fourth instructions for determining which Web
14 service candidate to invoke based on the Web service
15 candidate business policy.

1 26. The computer program product of claim 25, wherein
2 the policy discovery mechanism is UDDI.

1 27. The computer program product of claim 25, wherein
2 the Web service is described using WSDL.

1 28. The computer program product of claim 27, wherein
2 the querying instructions include obtaining a WSDL Web
3 service interface description for the requested Web
4 service.

1 29. The computer program product of claim 25, wherein
2 the querying instructions include locating a wsdlSpec

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3 tModel based on the WSDL Web service interface
4 description for the requested Web service.

1 30. The computer program product of claim 25, wherein
2 the determining instructions include analyzing business
3 criteria of the Web service candidate

1 31. The computer program product of claim 30, wherein
2 the business criteria includes cost of service.

1 32. The computer program product of claim 25, further
2 comprising:
3 fifth instructions for selecting a Web service from
4 a group of Web service candidates;
5 sixth instructions for sending a message to the Web
6 service;
7 seventh instructions for discovering the policy of
8 each Web service candidate in the group of Web service
9 candidates in response to a determination that the Web
10 service is not available;
11 eighth instructions for dynamically selecting a
12 second Web service from the group of Web service
13 candidates based on the policy; and
14 ninth instructions for sending a request to the
15 second Web service to service the client request.

1 33. The computer program product of claim 25, further
2 comprising:
3 fifth instructions for analyzing a metadata about
4 the client request.

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1 34. The computer program product of claim 33, wherein
2 the metadata includes Web service response time
3 information.

1 35. The computer program product of claim 25, wherein
2 the locating instructions include
3 instructions for discovering the policy of each Web
4 service candidate in the group of Web service candidates;
5 instructions for dynamically selecting the Web
6 service from the group of Web service candidates
7 responding the quickest based on the policy; and
8 instructions for sending a request to the selected
9 Web service to service the client request.

1 36. The computer program product of claim 25, wherein
2 the business policy includes Web Services Policy
3 Framework (WSPolicy).